

# 38th Annual Meeting, APS Division of Plasma Physics

11-15 November 1996, Denver, CO

## Abstract Submittal Form

Deadline: Wednesday, 10 July 1996

Subject Classification Category \_\_\_\_\_  
(Refer to the DPP Subject Category list on page M19.)

☐ Theory ☐ Experiment

UCRL-JC-124674 Abs

**Measurements of Rayleigh-Taylor growth in ablatively driven converging hemispherical targets at Nova,\* S.G. Glendinning<sup>a)</sup>, W. Hsing<sup>b)</sup>, D. Galmiche<sup>c)</sup>, B.A. Remington<sup>a)</sup>, D.H. Kalantar<sup>a)</sup>, S.W. Haan<sup>a)</sup>, R.J. Wallace<sup>a)</sup>, M.M. Marinak<sup>a)</sup>, a)LLNL, Livermore, CA, b)LANL, c)CEA Limeil We have started experiments to investigate the effects of convergence on single-mode perturbation growth due to the Rayleigh-Taylor (RT) instability on targets ablatively accelerated with an x-ray drive. In back-to-back experiments, planar and hemispherical targets are mounted on the wall of a standard Nova hohlraum, so that they see identical x-ray drive histories. Each target had identical initial perturbations, in one set of experiments a 2D  $\lambda=70\text{ }\mu\text{m}$  sinusoidal ripple, and in another set, a 3D  $k_x=k_y$  ( $\lambda_x=\lambda_y=100\text{ }\mu\text{m}$ ) pattern. The effects of convergence in the hemispherically imploding target should cause the density at the ablation front to remain steep, and cause the effective wavelength of the perturbation to decrease, each of which will affect the overall RT growth. Initial results will be presented. \*Work performed under the auspices of the U.S. Department of Energy by the Lawrence Livermore National Laboratory under contract number W-7405-ENG-48.**

- ☐ Prefer Poster Session  
☐ Prefer Oral Session  
☐ Place in the following grouping:  
(Specify the order)

Submitted by:

Signature of APS Member

- ☐ Special Audiovisual Requests  
(e.g., VCR/monitor, movie projector)

Member Name Typewritten

Affiliation

- ☐ Other Special Requests  
(e.g., Supplemental session, additional subject categories)

Phone/Fax

Email Address

A faxed copy is NOT acceptable. This form, or a computer-generated form, plus ONE COPY, must be received by Wednesday, 10 July 1996 at the following address.

Attn: Meetings Department, DPP96  
The American Physical Society  
One Physics Ellipse  
College Park, MD 20740-3844  
phone: (301) 209-3286